A&E Lab

www.aelabcn.com

Company Overview

A & E Laboratory Instruments Co., Ltd. (A & E Lab for short) is a high-tech enterprise, which is engaged in R & D, manufacturing, export comprises various kinds of laboratory, precision & science instruments in China. Our factory established in 2000, our export department set up in 2007, our Export & Import Co., Ltd found in 2010. Therefore, our company have ability to export our goods to foreign countries easily. Meanwhile, we have cooperated with many forwarder companies. So far, our company can accept all trading manners, e.g: EXW, FOB, CIF, DPP, DDV etc. We also can accept all kinds of payment terms, such as: T/T, L/C, D/P, O/A, etc.

We fully convinced that quality creates trust. Good quality creates our long-term business. In the bases of "High Quality, Rational Price, Superior Service & Constant Innovation", all of our products are meet the requirements of domestic and international standards. Consequently, our company have attained ISO9001 Certification. It has not only enjoyed high polularity and good reputation from end-user, but also established solid and long-term business relationship with all sorts of companies. Currently, our products are widely accepted and covered in European Countries, Middle East, North & South America, Africa, Asia, etc.

Our company consistently adheres to the principle of "Sincerity, Mutual Benefit, High Efficiency", we would like to share utmost advantage and mutual benefits with our customers. We firmly believe **Advanced Technologies & Excellent Technical Support** can be ensured permanent business relationship with our customers. Therefore, if any requirements for our instruments, pls do not hesitate to contact with us or our distributors. We shall make great efforts to meet your demands and offer the best solution to you timely.

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Spectroscopical Color Photometer *New*

Section 2 Electrochemical Instruments.

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Gloss Meter
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Tintometer
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Automatic Refractometer
Abbe Refractometer

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Homogenizer
Incubator
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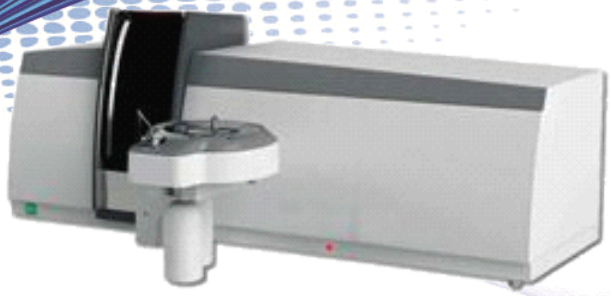
Centrifuge
Balance

Section 1

Optical-Spectrum Instruments

- **Atomic Absorption Spectrometer**
  AE-AA990/500 Series
- **NIR/Fluorescence Spectrophotometer**
  AE-S410/F96PRO
- **Micro-Spectrophotometer**
  AE-NANO100
  AE-NANO200
- **Bio-Spectrophotometer**
  AE-BIO Series
- **UV Vis Spectrophotometer**
  (Double Beam, Split Beam, Single Beam.)
  AE-UV18 Series
  AE-UV16 Series
- **Visible Spectrophotometer**
  AE-VIS18 Series
  AE-VIS16 Series
  AE-VIS72 Series
- **Flame Photometer**
  AE-AP Series
  AE-FP Series
- **Spectroscopical Color Photometer**
  AE-WSF/WSF-J

AE-AA500 Series
Atomic Absorption Spectrometer



Features:

Fully Automated

✧ The flame and graphite furnace is integrated into one instruments.The change over from one technique to another is carried out by simple key strokes within the software. instruments have a motorised 8 hollow cathode lamp turret which allows the automatic positioning and optimization of each hollow cathode lamp by the software.

✧ The spectral bandwidth is automated and is available with choice of five slit sizes.

Advanced Graphite Furnace

✧ Horizontally heated platform graphite tube.The unique design of graphite furnace reduces the chemical interference effects and memory effects by uniformly heating the graphite electrode.

✧ The computer controlled heating program all.Iows the users to select the best heating program for analysis.

✧ The optical temperature during the atomization stage ensures the rapid heating and rapid analysis.This helps to extend the life of graphite tube and enhance the analytical accuracy.

Technical Specifications:

Model	AE-AA500
Modols: AA500F: with Flame. **AA500G: with Graphite Furnace.** **AA500FG: with Flame & Graphite Furnace**	
Optic System	
Wavelength Range	190nm-900nm
Monochromator	Czemy-Turner Configuration
Spectral Bandwidth	0.1nm,02nm,0.4nm,1.0nm, 2.0nm (5steps,Automatic Changeover)
Wavelength Accuracy	±0.15nm
Wavelength Repeatability	<0.05nm
Resolution	<30% or 0.2nm ±0.02nm
Baseline Stability	0.005A/30min

Flame Analysis

Sensitivity(Cu): 2.0μg/ml Absorption>0.2 Abs

Detection(Cu): Cu<0.0004μg/ml(flame);Cd<0.4×10^{-12}g(graphite furnace)
Cu<0.7%(Air-Acetylene Analysis);
Ba<1% (Nitrous Oxide Analysis)
Cu<2%,Cd<2%(Graphite Furnace Analysis)

Background Correction: Deuterium Lamp>×40,Self Reversal>×60

Character Concentration:
<0.02μg/ml1%(Cu);<0.15mg/ml1%(Nitrous Oxide-Acetylene,Ba)

Character Value: Cu<0.3×10^{-10}g,Cd<0.3×10^{-12}g

Burner Head: Titanium Alloy Burner

Nebulizer: High-Efficiency Glass Nebulizer

Atomization Chamber: Corrosion-Resistant Material

Position Adjustment: Automatic Changeover of Flame and Furnace
Automatic setting of Optimum Height for Flame Burner

Safety Functions: Burner identification,Flame Sensor,Gas leak sensor,
Low gas pressure sensor,power loss protection,gas loss flame protection.

AE-AA990 Series
Atomic Absorption Spectrometer

Features:

Fully Automated

- ✧ The flame and graphite furnace is integrated into one instrument.The change over from one technique to another is carried out by simple key strokes within the software.
- ✧ The instruments have a motorised 8 hollow cathode lamp turret which allows the automatic positioning and optimisation of each hollow cathode lamp by the software.
- ✧ The control of the gas flows for the fuel gas (C_2H_2) and the positioning of the bumer is also carried out directly from the software thus allowing optimization of the instruments for the best analytical parameter for a selected analysis.
- ✧ Two methods of background correction are available.The first utilises a deuterium lamp and the second is the proven method of self reversal.
- ✧ The location of the wavelength and peak selection is automatic and controlled from the software. The spectral bandwidth is automated and is available with a choice of five slit sizes.
- ✧ The electronic parameters for the photomultiplier detector,the hollow cathode lamp current and the balancing of the absorbance and background energies are controlled from the software.
- ✧ The igntion of the flame is computer controlled and the various safety interlocks offer a very safe operating system.

Technical Specifications

Model	AE-AA990
Modols: AA990F: with Flame. AA990G: with Graphite Furnace. AA990FG: with Flame & Graphite Furnace	
Optic System	
Wavelength Range	190nm-900nm
Monochromator	Czemy-Turner Configuration
Spectral Bandwidth	0.1nm,0.2nm,0.4nm,1.0nm,2.0nm(5steps. with automatic change over)
Wavelength Accuracy	±0.25nm
Wavelength Repeatability	0.15nm
Baseline Stability	0.005A/30min

Flame analysis

Sensitivity(Cu): 0.03μg/ml/1%

Burner Head: Titanium alloy burner

Atomization Chamber: Corrosion-resistant material

Position Adjustment: Automatic Changeover of Flame and Furnace
Automatic setting of Optimum Height for Flame Burner

Safety: Automatic ignition and mixing air-acetylene gas with safety control.

Graphite furnace analysis

Character Value(Cd): 0.5Pg

Temperature Range: Ambient-2650℃

Heating: Voltage feedback control when dry and ashing;
Optical temperature control when atomizing.

Heating program: Up to 9 steps with choices of ramp,temperature increase and full-power heating

Background Correction:

Deuterium Lamp Background Correction: 1.0Abs self-Reversal Background Correction: 3.0Abs

Date processing

Analytical method: flame,graphite furnace and hydride.

AE-S410
NIR-Spectrophotometer

Applications:

Application field: liquid dope samples (gasoline, drink and milk, etc.)
Optical system: grating monochromator.
Detector: InGaAs.
Interface: RS232 serial port.

Features:

* Transmission NIR，mainly used for liquid samples qualitative and quantitative analysis,
  applies to gasoline, drinks, milk and other areas of nutrients, water chemistry and other physical properties of the rapid non-destructive analysis determination.
* Single-channel whole spectrum scanning.
* Easily updated.
* Fast scan, wavelength calibrates time from 900nm to 1700nm less than 2 minutes.
* Built in SCM technology, auto 0% and auto background subtraction.

Technical Specifications:

Model	**S410**
Wavelength Accuracy	±1nm
Wavelength Reproducibility	≤1nm
Wavelength Scanning Interval	4nm or 8nm or 16 nm
Wavelength Range	(900-1700)nm
Absorbance Reproducibility	0.002A (at 0.4A)
S/N	≥ 10^3 （at 1500nm）
Scanning Time	≤ 2mins
Standard Package	Main instrument 1 pc Power cord 1 pc Data processing software package 1 pc RS-232C serial communication cable 1 pc User manual 1 pc Packing list 1 pc Product quality certificate 1 pc Fuse（2A） 1 pc 1cm quartz square sample cell 1 pc 1cm cell holder 1 pc

AE-F96PRO
Fluorescence Spectrophotometer

Features:

Fluorescence analysis is a high sensitive and high selective sophisticated analytical method.This method can provide information including excitation and emission spectrum,emission light intensity and measurement of life of emission light and polarization fluorescence etc.This method can provide a wide lineal range of working curve.It has becoming an important analytical method in the region of trace analysis.

Applications:

- ✧ Medical science and clinical analysis of biological specimen.
- ✧ Pharmaceutical science and pharmacology Analysis of natural pharmaceutical products;Quality control of pharmaceuticals and research of pharmaceutical metabolites.
- ✧ Biochemistry Analysis of minute quantity of substances in biological body.
- ✧ Food industry Analysis of minute quantity of constituents in food.
- ✧ Pollution analysis Atmospheric pollution,environmental testing and food contaminatiion analysis.
- ✧ Organic and inorganic chemistry Used in the trace analysis in case of those substances cannot be determined by absorption spectrophotometery.

Specifications:

Model	AE-F96PRO
Light Source	Hamamatsu 150W Xenon lamp
Exciting Optical Filters	Interference optional filter ● Standard set is equipped with an interference optional filter of central wavelength at 365nm and 10nm bandwidth. ● An optional interference optional filter of 25mm diameter of wavelength of 250-700nm can be provided on users demand.
Emission Monochromator	C-T diffraction grating(Em 200-900nm,bandwidth 10nm)
Wavelength Accuracy	±1nm Wavelength repeatability ≦0.5nm
Sensitivity	1.Raman peak of water in 1cm quartz fluorescence cuvette with S/N ≧ 150
Linear Measurement(r)	≧0.995
Stability	better than 1.5%/10min
Variation of Power Source	220V±22V 50Hz ± 1Hz
Response Time	(0.1-4)s 6 stages adjustable
Fluorescence Display Value	2.0.00-600.00
Data Transmission	USD2.0

AE-Nano Series
Micro-Spectrophotometer

Introduction:

Nano-100 is a Micro-Spectrophotometer designed for nucleic acid measurements. It can accurately measure nucleic acid samples, and is no need to dilute high-concentration samples. Simply pipette 0.5~2ul sample onto the pedestal, laying down the sampling arm, Nano-100 can automatically complete the measurement within 5 seconds.

Features:

- ✧ Direct, easy measurements in less than 5 seconds: just pipette & wipe.
- ✧ Full spectral output.
- ✧ Measures DNA, RNA (A260) and Protein (A280), concentrations and sample purity (260/280ratio).
- ✧ Large concentration range without dilutions.
- ✧ User-friendly software that includes Custom Methods and data export capabilities.
- ✧ Low-cost operation--no plates or other consumables

Technical Specifications:

Model	NANO-100
Wavelength Range	200~850 nm
Minimum Sample Size	0.5～2.0ul
Path Length	0.2mm (For high concentration measwrement) 1.0mm (For ordinary)
Light Source	Xenon flash lamp
Detector Type	3864-element linear silicon CCD array
Wavelength Accuracy	1nm
Spectral Resolution	≤ 3 nm (FWHM at Hg 546 nm)
Absorbance Precision	0.003 Abs
Absorbance Accuracy	1% (at 0.76 at 350 nm)
Absorbance Range	0.02 - 75 (10 mm equivalent)
Measurement Time	< 5s
Dimensions (W x D x H)mm	200 x 262 x 154
Weight	2.5kg
Sample Pedestal Material	Aluminum alloy and Quartz fiber
Operating Voltage	12V DC
Operating Power Consumption	12 - 18 W
Standby Power Consumption	5W
Software Compatibility	Windows 7, Windows XP

AE-Nano Series
Micro-Spectrophotometer

Introduction:

Nano-200 is a Nucleic Acid Analyzer designed for analyzing the concentration and pure of Nucleic Acid (DNA/RNA). Simply pipette 0.5~2ul sample onto the pedestal, laying down the sampling arm, Nano-200 can automatically complete the measurement within 5 seconds.

Features:

- ✧ Direct, easy measurements in less than 5 seconds.
- ✧ Require only 0.5~2ul samples.
- ✧ No cells or cuvettes and no warm up.
- ✧ Optional data output via built-in printer, SD-RAM Card, USB memory.
- ✧ Touch screen and panel operation, without computer.
- ✧ No dilutions for samples.

Technical Specifications:

Model	NANO-200
Wavelength Range	230nm, 260nm, 280nm
Minimum Sample Size	0.5～2.0ul
Path Length	0.2mm (For high concentration measurement) 1.0mm (For ordinary)
Light Source	Xenon flash lamp
Absorbance Precision	0.003 Abs
Absorbance Range	0.02 - 80 (10 mm equivalent)
Detects Nucleic acid up to	10~5000ng/ul (dsDNA)
Detects Protein up to	0.1mg/ml~100mg/ml
Measurement Time	< 5s
Dimensions (W x D x H)mm	210 x 280 x 166
Sample Pedestal Material	Aluminum alloy and Quartz fiber
Operating Voltage	12V DC
Operating Power Consumption	12 - 18 W

AE-BIO Series
Bio-Spectrophotometer

Introduction:

BIO Series Bio-Spectrophotometer is a new type micro-nucleic acid spectrophotometer. It can be satisfied users test nucleic acid and protein requirements. Also, it can be available to measuring nucleic acid, protein, cell solution, blood samples. Especially, it can scan all band accurately.

Features:

- ✧ Rotary light switch automatically, positioning accuracy.
- ✧ Imported long-life light source, it can achieve all band precise analysis.
- ✧ LCD display can display standard curve and more than 200 sets test data.
- ✧ Unique optical design can full realization 20~50μL sample's accurate measurement.Professional analysis software can implement all band scanning and dynamic testing analysis.

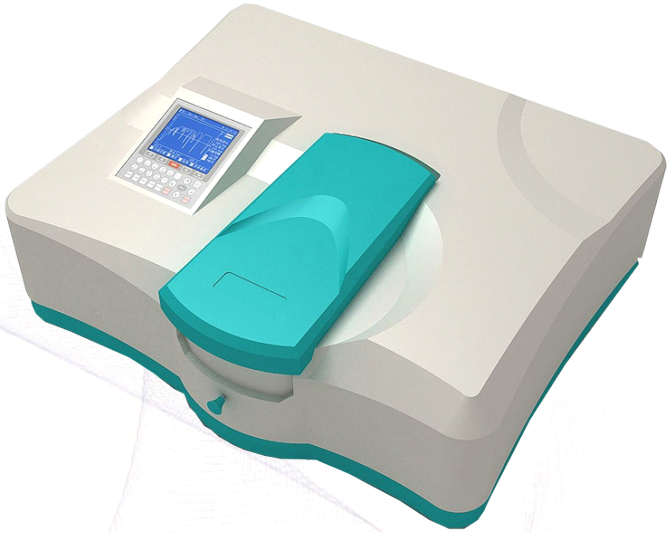
Technical Specifications:

Model	BIO-500	BIO-600	BIO-800
Measurement Range	190-850nm	190-1000nm	190-1100nm
Wavelength Accuracy	1nm	0.1nm	
Sample Test	1ul~2uL	20~50μL	
Absorbance Accuracy	0.002Abs	0.001Abs	
Display	--- ---	2.5 inch	6 inch
Output	PC Software		

AE-UV1801/1801S

UV Vis Spectrophotometer

Features:



- With embedded computer and optimized optical system,convenient and easy to use.
- 320×240 dots array large screen graphic LCD display with abundant instructions,and curve and table directly displayed on screen.
- Basic photometric mode, Quantitative analysis Qualitative analysis, Kinetics test, DNA/Protein Test and Multi-wavelength are available.
- Alternative fitting and correction methods for Quantitative Analysis.
- Re-scaling axes, curve smoothing,combination,zooming and overlap, 1st to 4st derivative for Qualitative analysis.
- Up to 1000 test data can be saved in local memory.
- Data output by optional built-in thermal printer or USB2.0 printer driver and PC software available.

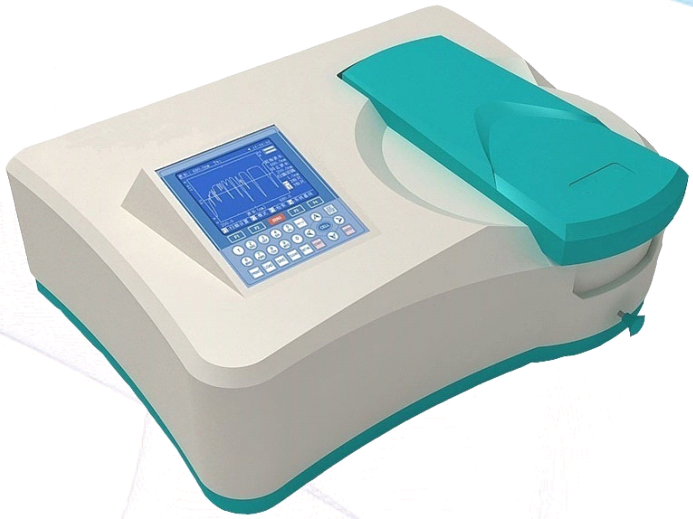
Technical Specifications:

Model	AE-UV1801	AE-UV1801S
Wavelength Range	190 - 1100nm	
Spectral Bandwidth	2nm or 1nm	0.5nm,1nm,2nm,4nm,5nm Variable
Optical System	**Double Beam** & Czerny-Turner; Grating 1200 line/mm	
Wavelength Accuracy	±0.1 nm(656.1 nm D2), ±0.3 nm(Whole wavelength range);	
Wavelength Repeatability	±0.2nm	
Wavelength Resolution	0.1nm	
Photometric Range	-0.3 to 3A ; 0-200%T; -9999 to 9999C;	
Photometric Accuracy	±0.002A@0.5A , ±0.3%(0～100%T)	
Photometric Repeatability	±0.001A@0.5A , ±0.15%T(0～100%T)	
Stray Light	≤ 0.05%T (220 nm, NaI; 340 nm, NaNO2)	
Baseline Flattness	±0.001A	
Stability	±0.0005A/hr @500nm, 0A	
Photometric noise	±0.0003A	
Data Output	320×240 Dots Array Graphic LCD; USB2.0 printer driver(Optional); USB1.1 Connecting to computer;	

AE-UV1802/1802S

UV Vis Spectrophotometer

Features:



- With embedded computer and optimized optical system,convenient and easy to use.
- 320×240 dots array large screen graphic LCD display with abundant instructions,and curve and table directly displayed on screen.
- Basic photometric mode, Quantitative analysis Qualitative analysis, Kinetics test, DNA/Protein Test and Multi-wavelength are available.
- Alternative fitting and correction methods for Quantitative Analysis.
- Re-scaling axes, curve smoothing,combination,zooming and overlap, 1st to 4st derivative for Qualitative analysis.
- Up to 1000 test data can be saved in local memory.
- Data output by optional built-in thermal printer or USB2.0 printer driver and PC software available.

Technical Specifications:

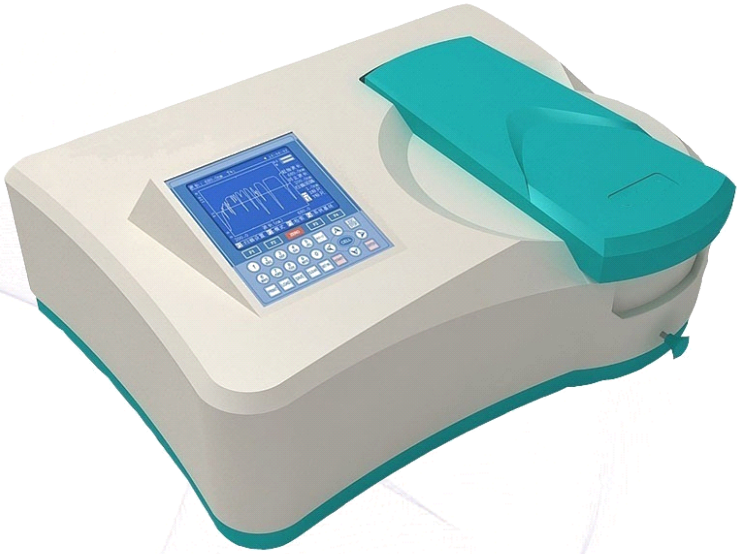
Model	AE-UV1802	AE-UV1802S
Wavelength Range	190 - 1100nm	
Spectral Bandwidth	2nm or 1nm (Optional)	0.5nm,1nm,2nm,4nm,5nm Variable
Optical System	Littrow; Grating 1200 line/mm	Czerny-Turner,**Single Beam or Split Beam;** Grating 1200 line/mm
Wavelength Accuracy	±0.1 nm(656.1 nm D2), ±0.3 nm(Whole wavelength range);	
Wavelength Repeatability	±0.2nm	
Wavelength Resolution	0.1nm	
Photometric Range	-0.3 to 3A ; 0-200%T; -9999 to 9999C;	
Photometric Accuracy	±0.002A@0.5A , ±0.3%(0～100%T)	
Photometric Repeatability	±0.001A@0.5A , ±0.15%T(0～100%T)	
Stray Light	≤ 0.05%T (220 nm, NaI; 340 nm, NaNO2)	
Baseline Flattness	±0.001A	
Stability	±0.0005A/hr @500nm, 0A	
Photometric noise	±0.001A (500nm, 0A, 2nm SBW)	
Data Output	320×240 Dots Array Graphic LCD; Optional built-in thermal printer/USB2.0 printer driver; USB1.1 Connecting to computer;	

AE-UV1803/VIS1810

UV Vis Spectrophotometer

Features:

- With embedded computer and optimized optical system,convenient and easy to use.
- Large screen graphic LCD display with abundant instructions.
- Basic photometric mode, Quantitative analysis
- Alternative fitting and correction methods for quantitative analysis.
- Built in thermal printer output and curve;
- Up to 1000 test data can be saved in local memory.
- PC software available and provides more features, such as: Kinetics test (Enzyme reaction rate calculation),DNA/Protein test and Wavelength scan are included.



Technical Specifications:

Model	AE-UV1803	AE-VIS1810
Wavelength Range	190 - 1100nm	325 - 1100nm
Spectral Bandwidth	2nm/4nm (optional)	
Optical System	Split beam or Littrow,Grating 1200 line/mm	
Wavelength Accuracy	±0.5nm	±0.8nm
Wavelength Repeatability	±0.2nm	±0.3nm
Wavelength Resolution	0.1nm	
Photometric Range	-0.3 to 3A ; 0-200%T; -9999 to 9999C;	
Photometric Accuracy	±0.004A@0.5A , ±0.5%T(0～100%T)	
Photometric Repeatability	±0.002A@0.5A , ±0.3%T(0～100%T)	
Stray Light	≤0.05%T@220nm & 340nm	≤0.05%T@340nm
Baseline Flattness	±0.002A(PC running software required)	
Stability	±0.002A/hr @500nm, 0A	
Data Output	128×64Dots Array Graphic LCD; Optional built-in thermal printer; USB1.1 Connecting to computer;	

AE-UV1804/VIS1820/VIS1830

UV Vis Spectrophotometer

Features:

- With embedded computer and optimized optical system,convenient and easy to use.
- 4 line×20 characters LCD display with abundant and simple instructions;
- Basic photometric mode, Quantitative analysis: linear fitting and linear fitting through zero.
- Built in thermal printer output and curve;
- Up to 200 test data can be saved in local memory.
- PC software available and provides more features, such as: Kinetics test (Enzyme reaction rate calculation),DNA/Protein test and Wavelength scan are included.

Technical Specifications:

Model	AE-UV1804	AE-VIS1820	AE-VIS1830
Wavelength Range	200-1000nm	325 - 1000nm	
Spectral Bandwidth	2nm/4nm (optional)		
Optical System	Split beam or Littrow,Grating 1200 line/mm		
Wavelength Accuracy	±2nm		
Wavelength Repeatability	±1nm		
Wavelength Resolution	1nm		
Photometric Range	-0.3 to 3A ; 0-200%T; -9999 to 9999C;		
Photometric Accuracy	±0.004A@0.5A , ±0.5%T(0~100%T)		
Photometric Repeatability	±0.002A@0.5A , ±0.3%T(0~100%T)		
Stray Light	≤0.05%T@ 220nm & 340nm	≤ 0.1%T @ 340nm	
Stability	±0.002A/hour @500nm ,0A		
Sample Compartment	Accommodates 100mm Max pathlength cuvette		50mm
Data Output	4 line×20 characters LCD; Optional built-in thermal printer; USB1.1 Connecting to computer;		

AE-UV1600

UV Vis Spectrophotometer

Features:

- The innovative optical layout and state of art mono-chromator with high grade blazed holographic grating ensure accuracy. Its integrated design assures long term stability and durability.
- The precisely aligned detector and quality deuterium and halogen lamps enhance the precision across the UV/vis spectrum starting from 190nm and into the near-infrared 1100nm.
- Online software upgrade capability via Internet(for stand-alone models).
- Full A4 print-out of graphs and tables of results with popular inexpensive printers such as HP or Epson Deskjet.
- Real-time clock for date and time stamping of results.
- Large LCD display (320*240 Dots Matrix).

Technical Specifications:

Model	UV-1600
Optical System	Double Beam (1200 Lines/mm Grating)
Wavelength Range	190-1100nm
Band Width	0.5/ 1.0/ 2.0/ 4.0 nm Optional
Wavelength Accuracy	±0.3nm
Wavelength Repeatability	0.2nm
Photometric Accuracy	±0.3%T
Photometric Repeatability	0.2%T
Photometric Display Range	-0.3-3A,0-200%T,0-9999C
Stability	± 0.001A/h @ 500nm
Baseline Flatness	±0.001A
Noise	±0.001A
Stray Light	≤0.05%T @220nm, 360nm
Data Output Port	USB
Printer Port	Parallel Port
Display	LCD (320*240 Dots)
Lamps	Deuterium Lamp & Tungsten Halogen Lamp
Detector	Silicon Photodiode
Software	UV PC Software
Packing Size & Weight	625*430*206mm & 30kg

AE-UV1601

UV Vis Spectrophotometer

Introduction:

UV1601 Series are advanced **Double Beam** design consisting of 3 models: UV1601, UV1601A, UV1601S. All the 3 models are Stand-alone models: UV1601 with 1.8nm fixed bandwidth, UV1601A with 1nm bandwidth and UV1601S with 0.5/1.0/2.0/4.0nm variable bandwidth. Except bandwidth, other specifications of the 3 models are almost the same.

The two detectors are measuring sample and reference respectively simultaneously for optimizing measurement accuracy. Basic Modes: Absorbance, Transmittance, Quantitative, Kinetics, Multi-wavelength, Wavelength Scan, DNA/Protein test, Utility.

Technical Specifications:

Model	UV1601	UV1601A	UV1601S
Optical System	Double Beam (1200 Lines/mm Grating)		
Wavelength Range	190-1100nm		
Band Width	1.8nm	1nm	0.5nm/1.0nm/2.0nm/4.0nm
Wavelength Accuracy	±0.3nm		
Wavelength Repeatability	0.2nm		
Photometric Accuracy	±0.3%T		
Photometric Repeatability	0.2%T		
Photometric Display Range	0-200%T, -0.3-3.0A, 0-9999C		
Stability	0.001A/h @ 500nm		
Baseline Flatness	±0.001A		
Noise	±0.001A		
Stray Light	≤0.05%T @220nm, 360nm		
Data Output Port	USB		
Printer Port	Parallel Port		
Display	LCD (320*240 Dots)		
Lamps	Deuterium Lamp & Tungsten Halogen Lamp		
Detector	Silicon Photodiode		
Software	UV PC Software		
Packing Size & Weight	860×660×465mm & 35/37kg		

AE-UV1602/UV1603

UV Vis Spectrophotometer

Introduction:

UV1602/1603 series of spectrophotometers are advanced **Single Beam** design consisting of 5 models. They vary in bandwidth, wavelength accuracy and dimension. They provide excellent performance for measurements in the range of 190nm to 1100nm. All spectrophotometers features high performance sealed optics mounted on a stable machined platform.

They are suitable for clinical lab applications, pharmaceutical and bio-chemical as well as routine applications such as: quantitative analyses, kinetics, wavelength scanning, multiple components and DNA/Protein analysis.

Technical Specifications:

Model	UV1603	UV1602	UV1602A	UV1602S
Optical System	Single Beam (1200 Lines/mm Grating)			
Wavelength Range	190-1100nm			
Band Width	1.8nm		1nm	0.5/1.0/2.0/4.0nm
Wavelength Accuracy	±0.5nm	±0.3nm		
Wavelength Repeatability	0.3nm	0.2nm		
Photometric Accuracy	±0.3%T			
Photometric Repeatability	0.2%T			
Photometric Display Range	0-200%T, -0.3-3.0A, 0-9999C			
Stability	0.002A/h @ 500nm			
Baseline Flatness	±0.002A	±0.001A		
Noise	±0.001A			
Stray Light	≤0.05%T @220nm, 360nm			
Data Output Port	USB			
Printer Port	Parallel Port			
Display	LCD (320*240 Dots)			
Lamps	Deuterium Lamp & Tungsten Halogen Lamp			
Detector	Silicon Photodiode			
Packing Size & Weight	860×660×465mm & 25/35/36kg			

AE-UV1604/UV1605

UV Vis Spectrophotometer

Introduction:

UV1604/1605 Series are developed for precise test, its stray light is only 0.05%T.They are flexible, easy to use and maximize value. The value is evident from the performance provided every day. The local stand-alone software provide functions of Basic Mode, Quantitative Test, Kinetics and System Utilities.

Characteristics:

- Large LCD screen(128X64Dots). Can display total 200 groups of data,5 groups per screen. Can display standard curve and kinetics curve. System can also save the test results, total 200 groups of data and 100 standard curves can be saved in the RAM. Be Convenient for check and reload.
- Data can be restored after a sudden power cut. Auto setting wavelength. Tungsten lamp & deuterium lamp can be turned on/off individually to extend lifetime. It can expand to the following functions: Quantitative, Kinetics, Wavelength Scan, Multi-wavelength & DNA/Protein Test. Pre-aligned design makes it convenient to change lamps.

Technical Specifications:

Model	UV1605	VIS1620	UV1604	VIS1610
Wavelength Range	190-1100nm	320-1100nm	190-1100nm	320-1100nm
Band Width	2nm			
Wavelength Accuracy	±0.8nm		±0.5nm	
Wavelength Repeatability	0.3nm		0.2nm	
Wavelength Setting	Auto			
Photometric Accuracy	±0.3%T			
Photometric Repeatability	0.2%T			
Photometric Display Range	0-200%T, -0.3-3.0A, 0-9999C			
Stability	0.002A/h @ 500nm			
Baseline Flatness	±0.002A		±0.0015A	
Noise	±0.001A			
Stray Light	≤0.05%T @220nm, 360nm			
Data Output Port	USB			
Printer Port	Parallel Port			
Display	LCD (128*64 Dots)			
Detector	Silicon Photodiode			
Packing Size & Weight	680×590×420mm & 23/25kg			

AE-UV1606/UV1607/1608

UV Vis Spectrophotometer

Introduction:

The UV1606/1607/1608 spectrophotometers have the most attractive cost performance. It is widely used in colleges and enterprises for general quantitative analysis and experiments.

Characteristics:

- Large LCD screen(128x64Dots). Can display total 200 groups of data,5 groups per screen. Can display standard curve and kinetics curve. System can also save the test results, total 200 groups of data and 100 standard curves can be saved in the RAM. Be Convenient for check and reload.
- Data can be restored after a sudden power cut. Auto setting wavelength. Tungsten lamp & deuterium lamp can be turned on/off individually to extend lifetime. It can expand to the following functions: Quantitative, Kinetics, Wavelength Scan, Multi-wavelength & DNA/Protein Test. Pre-aligned design makes it convenient to change lamps.

Technical Specifications:

Model	UV1608	UV1607	UV1606
Wavelength Range	190-1100nm		
Band Width	2nm		
Optical System	Single Beam, Grating 1200line/mm		
Wavelength Accuracy	±1nm	±0.8nm	±0.5nm
Wavelength Repeatability	0.5nm	0.3nm	0.2nm
Wavelength Setting	Auto		
Photometric Accuracy	±0.3%T		
Photometric Repeatability	0.2%T		
Photometric Display Range	0-200%T, -0.3-3.0A, 0-9999C		
Stability	0.002A/h @ 500nm		
Baseline Flatness	--	±0.002A	±0.0015A
Stray Light	≤0.1%T@220nm, 360nm	≤0.05%T@220nm, 360nm	
Data Output Port	USB		
Printer Port	Parallel Port		
Display	128*64 Dots LCD		
Lamps	Deuterium Lamp & Tungsten Halogen Lamp		
Detector	Silicon Photodiode		
Packing Size & Weight	680×590×420mm & 23/25kg		

AE-UV1609/VIS1630

UV Vis Spectrophotometer

Characteristics:

- Large LCD screen (128x64 Dots). Can display and save 50 groups of data, 3 groups per screen.
- Data can be restored after a sudden power cut. Auto setting wavelength.
- Tungsten lamp & deuterium lamp can be turned on/off individually to extend lifetime. Automatical WL. Calibration and dark current getting.
- Optional software UV-Professional can expand the applications to Kinetics and Quantitatives.

Functions:

- T Mode: Continuously measure the Transmittance of samples
- A Mode: Continuously measure the Absorbance of samples
- C Mode: Standard Curve method, can use at most 9 standard samples to create a new standard curve, and to measure the unknown samples by the new one.
- F Mode: Coefficient Method, Input the known K and C to measure the unknown concentration samples.

Technical Specifications:

Model	UV1609	VIS1630
Optical System	Single Beam,Grating 1200line/mm	
Wavelength Range	200-1000nm	325-1000nm
Band Width	4nm	
Wavelength Accuracy	±2nm	
Wavelength Repeatability	1nm	
Wavelength Setting	Auto	
Photometric Accuracy	±0.5%T	
Photometric Repeatability	0.3%T	
Photometric Display Range	0-200%T, -0.3-3.0A, 0-9999C	
Stability	0.002A/h @ 500nm	
Stray Light	≤0.3%T@220nm, 360nm	
Data Output Port	USB	
Printer Port	Parallel Port	
Display	128*64 Dots LCD	
Detector	Silicon Photodiode	
Software	Optional	
Packing Size & Weight	550×420×280mm & 14/11kg	

AE-VIS721/722

Visible Spectrophotometer

Application:

VIS721/722 are basic laboratory instruments which based on the principle of spectrophotometery. It can be measured the transmittance, absorbency, concentration factor & concentration direct reading of samples within 340-1000nm wavelength ranges. Meanwhile, it can be easily connected printer or PC software. It can be widely applied to clinical sanitation, biochemistry, environment protection, food inspection, petrochemical, tertiary institutions, basic teaching experiments, etc.

Characteristics:

- Adoption of new single-chip microcomputer system, completely functions.
- 4 Digital LCD display, widely measurement range, higher accuracy.
- Thin-film-style keyboard, dust-proof & waterproof skin and easy to clean.
- To be avoid energy plummeting after reflector was burnt, it has adopt lens to gathering light.
- With a professional lamb holder so that can not be replaced the optical circuit of halogen tungsten lamb.
- Automatic calibration 0%T, 100%T & absorbency 0A.

Technical Specifications:

Model	721	722N
Optical System	Single beam 1200 diffraction grating	
Wavelength Range	340nm-1000nm	
Wavelength Accuracy	±1nm	
Wavelength Repeatability	0.5nm	
Spectrum Bandwidth	4nm	
Photometric Range	0-100%T, 0-3.000A	
Transmittance Accuracy	±0.5%T	
Transmittance Repeatability	0.2%T	
Reading Range	0-9999	
Stray Light	≤0.2%T (360nm, JB400)	
Light Source	Halogen Tungsten Lamp (20W/12V)	
Power Supply	AC90-264V	
Output	--- ---	RS232 interface.
Packing Size & Weight	510×490×280mm & 6.5kg	

FP Series
Flame Photometer

Application:

Flame Photometer is used for analyzing & measuring the content & concentration of elements (K, Na, Li, Ca, Ba). It can be widely applied to laboratory, clinical experiments and pathology research (serum, urine, plasma), agriculture (soil, fertilizer, tobacoo), industry (cement, glass, ceramics, mineral or ore powder, fireproof material), food (wine, water), etc.

Characteristics:

- K & Na filters & air-compressor as standard accessories.
- Li, Ca, Ba filters as optional accessories.
- Dual channel & 4 digital LED display.
- Unique ignition path & keyboard operate.
- Electronic flame failure detection.
- Fine & coarse sensitivity controls.
- Operates on L.P.G supply.
- Easily maintained

Technical Specifications:

Model	FP6420	FP6410	FP640	FP6400
Measurement Range	K:0.0-10.0mmol/L, Na:0.0-200.0mmol/L.	K: 0.0-5.0mmol/L, Na: 0.0-25.0mmol/L.	K: 0.0-2.0mmol/L, Na: 0.0-10.0mmol/L	K: 0.0-1.0mmol/L, Na: 0.0-5.0mmol/L
Detection Limit	K≤0.004mmol/L, Na≤0.008mmol/L			
Linearity Range	K: 0.02mmol/L-0.1mmol/L, Na: 0.1mmol/L-0.5mmol/L.			
Linearity Error	K≤0.005mmol/L, Na≤0.03mmol/L			
Repeatability	Relative Standard Deviation≤3%			
Stability	Within 15s the indication of the Max. Relative Deviation ≤3%.			
Record Output	RS232 Interface		-- -- --	
Dimension	410×675×410mm			
Weight	10 kg			
Units exchange: K: 1mmol/L = 1mEq/L = 39.098mg/L = 39.098ppm. Na: 1mmol/L = 1mEq/L = 22.98mg/L = 22.98ppm.				

AP Series
Flame Photometer

Application:

This instrument is used for analyzing & measuring the content & concentration of elements (K, Na, Li, Ca, Ba). It can be widely applied to agriculture (soil, fertilizer, tobacoo), industry (cement, glass, ceramics, mineral or ore powder, fireproof material), food (wine, water), laboratory, clinical experiments and pathology research (serum, urine, plasma), etc.

Characteristics:

- With 5 channels and be able to detect K, Na, Li, Ca, Ba 5 elements. With K, Na, Li, Ca, Ba five filters, which can detect three kinds of elements, show three kinds of element content simultaneous.
- Operates on propane, butane or liquefied petroleum gas.
- Standard accessories: air-compressor, PC software or micro-printer.
- LCD Display, touch panel with numeric keypad.
- Single point calibration & calibration curve can be saved.
- RS232 interface, external computer or printer. With a mist separator.

Technical Specifications:

Model	AP1500	AP1401	AP1402	AP1301	AP1302	AP1200
Measurement Range	K: 0-100ppm; Na: 0-100ppm; Li: 0-100ppm; Ca: 0-1000ppm; Ba: 0-3000ppm	K: 0-100ppm; Na: 0-100ppm; Li: 0-100ppm; Ca: 0-1000ppm;	K: 0-100ppm; Na: 0-100ppm; Li: 0-100ppm; Ba: 0-3000ppm	K: 0-100ppm; Na: 0-100ppm; Li: 0-100ppm;	K: 0-100ppm; Na: 0-100ppm; Ca: 0-1000ppm;	K: 0-100ppm; Na: 0-100ppm;
Measurement Limit	K: 0.01ppm; Na: 0.01ppm; Li: 0.025ppm; Ca: 0.1ppm; Ba: 10ppm;	K: 0.01ppm; Na: 0.01ppm; Li: 0.025ppm; Ca: 0.1ppm;	K: 0.01ppm; Na: 0.01ppm; Li: 0.025ppm; Ba: 10ppm;	K: 0.01ppm; Na: 0.01ppm; Li: 0.025ppm;	K: 0.01ppm; Na: 0.01ppm; Ca: 0.1ppm;	K: 0.01ppm; Na: 0.01ppm;
Drift	≤ 3% (after 30 minutes when the instrument stability)					
Sample Rate	4 ~ 6ml/min					
Linearity	Better than the best results of the intermediate value of 2% (single-point CAL)					
Response Time	＜8s					
Time Stability	Less than 15 seconds (when the sample was taken after the flame)					
Calibration Methods	Straight line, broken line, secondary fitting					
Size & Weight	530X510X580mm & 27kg					

AE-WSF
Spectroscopical Color Photometer

Characteristics:

- Wide application range and easy-to-operate feature.
- Measure reflection color and transmission color of objects and can test ch romaticity, whiteness and color difference between two objects or two kinds of liquid.
- Only accept d/0 lighting specified by CIE.
- Display reflectance and transmittance of objects or liquid within the scope of visible light wave (400nm-700nm), and generate a spectral curve on reflectance and transmittance of objects or liquid, which greatly facilitates analysis on object color.
- Wide used in such industries as textile, dye, printing and dyeing, coating, paint, paper making, building materials, food, and printing.

Specifications:

- Lighting conditions: d/0
- Spectrum conditions: overall response is equivalent to tristimulus values X, Y, and Z calculated in corresponding functions under GB3978 standard illuminant D65, A, C and 10°, 2° view of field.
- RS232
- Measurement window: Ø20mm
- Wavelength range: 400nm~700nm; Accuracy: ±2nm
- Accuracy of spectrum transmittance (%):±1.5
- Repeatability: σ u (Y) ≤0.5, σ u (x)、σ u (y) ≤0.003
- Instrument stability: ΔY≤0.6
- Accuracy: ΔY≤2, Δx、Δy≤0.02
- Palette system:
- Color: X, Y, Z; Y, x, y; L*, a*, b*; L, a, b; L*, u*, v*; L*, c*, h*
- Color difference: Δ E (L*a*b*); ΔE (Lab); ΔE (L*u*v*); ΔL*, ΔC*, ΔH*
- Whiteness: Gans whiteness
- Blu-ray whiteness: W=B
- Tabble: W=4B-3G

AE-WSF-J
Spectroscopical Color Photometer

Characteristics:

- Wide application range and easy-to-operate feature.
- Measure reflection color and transmission color of objects and can test chromaticity, whiteness and color difference between two objects or two kinds of liquid.
- Only accept d/0 lighting specified by CIE.
- Display reflectance and transmittance of objects or liquid within the scope of visible light wave (380nm-760nm), and generate a spectral curve on reflectance and transmittance of objects or liquid, which greatly facilitates analysis on object color.
- Wide used in such industries as textile, dye, printing and dyeing, coating, paint, paper making, building materials, food, and printing.

Specifications:

- Lighting conditions: d/8
- Light source: pulsed-xenon lamp
- Receiver: photodiode array, flat fielding grating
- Spectrum conditions: overall response is equivalent to tristimulus values X, Y, and Z calculated in corresponding functions under GB3978 standard illuminant D65, A, C and 10°, 2° view of field.
- Display method: computer display screen
- Interface: USB
- Measurement window: Ø20mm
- Wavelength range: 380nm~760nm
- Total uncertainty of wavelength (nm): 1
- Wavelength repeatability (nm): 0.2
- Total uncertainty of spectrum transmittance (%): 0.5
- Repeatability of spectrum transmittance (%): 0.2
- Total uncertainty of spectrum reflectance (%): 1.0
- Repeatability of spectrum reflectance (%): 0.4
- Instrument stability: $\Delta Y \leq 0.2$
- Instrument repeatability: $\Delta Y \leq 0.2$； $\Delta E \leq 0.02$ (standard white board, mean of 10 measurements)
- Total uncertainty of colorimetry: $\Delta Y \leq 1$ Δx, $\Delta y \leq 0.002$
- Palette system:
- Color: X, Y, Z; Y, x, y; L*, a*, b*; L, a, b; L*, u*, v*; L*, c*, h*
- Color difference: Δ E (L*a*b*); ΔE (Lab); ΔE (L*u*v*); ΔL*, ΔC*, ΔH*
- Whiteness: W, T
- Computer system: Pentium 4 or above
- Software: WSF-J dedicated software, under Windows XP or 2000 operating system
- Weight (Gross): 22kg
- Overall dimensions: 680mm × 430mm × 430mm

A & E Lab

Contact: Ms. Ella Wu
Mobile: +86-15800016110
Tel: +86-20-28039790
Fax: +86-20-28039794
Email: aelab@live.cn
sales@aelabcn.com
Website: www.aelabcn.com

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